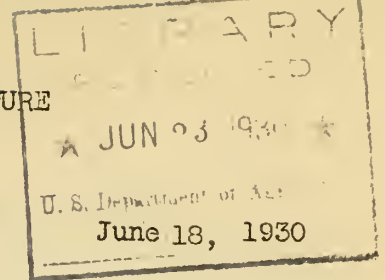


Historic, archived document

Do not assume content reflects current
scientific knowledge, policies, or practices.

UNITED STATES DEPARTMENT OF AGRICULTURE
Bureau of Agricultural Economics
Washington



F.S.
A-310

FOREIGN NEWS OF APPLES

NOTES ON THE APPLE INDUSTRIES OF SOME OF THE
IMPORTANT EUROPEAN PRODUCING COUNTRIES

Apple production is receiving increasing attention in practically all continental European countries, according to Mr. T. A. Motz, Fruit Specialist of the Foreign Agricultural Service of the Department of Agriculture. Considerable progress has already been made in most countries in putting the fruit industry on a more modern basis. The development of European apple industries is evidenced more by improvements in cultural, harvesting and grading practices and the introduction of more desirable varieties than by an extension of acreage, although the latter is taking place in some areas. In every country the development of the fruit industry is being encouraged and fostered by the Government. In view of these conditions an intensification of the competition met by American fruit, particularly apples, on continental European markets must be anticipated. To meet this competition successfully, American growers will find it necessary not only to maintain but to improve the standard of their export fruit, states Mr. Motz. The following observations are made by Mr. Motz on the basis of a recent first-hand investigation of the fruit industries of the Netherlands, Germany, Switzerland, Italy, Czechoslovakia and Austria.

The Netherlands

The Netherlands is a small country, densely populated, with practically every foot of available land fully utilized. Intensive cultural practices are employed and an abundance of hand labor is in evidence everywhere. On the whole the orchards are receiving excellent attention. Up-to-date practices are being adopted. Better market varieties are rapidly displacing those of less commercial importance and there is a definite policy on foot to improve the standards of the fruit.

The Dutch orchards are found largely in the provinces of Gelderland, Utrecht and Zeeland. Of the three, Zeeland is said to be the most progressive. This province is quite heavily planted to fruits of all kinds and the orchards, particularly the plantings of more recent date, are similar to those found in America. About 7,000 acres in Zeeland are given over to fruit culture.

The size of the orchards varies from 10 to 100 acres, the average unit, however, being 15 to 25 acres. Apples and pears predominate, with a scattering of cherries, plums and peaches. All orchards are closely interplanted with full dwarf trees of either apples or pears or both. The rows of standard trees are spaced some 35 to 50 feet apart with two or three rows of dwarf or bush trees between and these in turn interplanted with currants, gooseberries, raspberries and strawberries. Occasionally peaches and other stone fruits are used as a filler between apple trees with bush fruits and strawberries planted between rows. In the provinces of Gelderland and Utrecht both sod culture and clean tillage are practiced with the former predominating, while in Zeeland, clean tillage is practiced almost entirely. The trees are heavily fertilized with stable manure, supplemented with a complete commercial fertilizer.

In the older established orchards trees are trained to high heads, so as to afford grazing for the livestock. In the newer plantings, however, the trees are being headed much lower, many of them forming their permanent framework branches within a few inches of the ground. The trees are receiving excellent pruning. Superfluous branches are removed to permit the entrance of plenty of sunlight to the innermost parts of the trees, which are well supplied with fruiting wood. The growth on young trees is headed back quite severely each year and considerable attention is paid to the spacing of main limbs. Most trees are pruned according to the modified leader or central leader type.

Spraying is rapidly growing in favor, although most orchards are still sprayed with knapsack sprayers. Rods from 5 to 25 feet in length are used, depending upon the size and age of the tree. In spite of the apparently antiquated equipment, all work is done thoroughly and a tree is not passed by until it has been completely covered. From four to six sprays are applied each season, the number depending upon weather conditions.

Yields are good, especially on half-standard and dwarf stock. A planting of Jonathans (dwarfs), 6 years old, observed in the Zeeland province, yielded on an average 2 bushels per tree, five years after planting.

Cooperative packing and selling organizations are increasing rapidly throughout the Netherlands. Fruits and vegetables of all kinds are sold and shipped through these associations. On the whole their plants are large, substantially constructed and fully equipped with modern machinery to facilitate the grading and handling of the product. Several large apple grading machines of a well known American make are being successfully operated. Fruit production, especially of apples, seems to be flourishing in the Netherlands and there is every reason to expect increased competition from this quarter.

Germany

Apple trees are well scattered over the Republic of Germany. The production of apples in this country, however, does not possess the commercial aspects in evidence in England and Holland or in the apple growing districts of the United States. The plantings, although numerous in certain areas, are of secondary importance. The welfare of livestock, which is dependent on the meadow, is the first consideration. One of the most important apple growing districts, and one which is rapidly coming into prominence, is the area contiguous to the Bodensee (Lake Constance). After passing through the Black Forest, one enters a beautiful farming country, the topography of which is gently rolling, backed by hills or mountains similar in many respects to the country found in some of our Eastern and Middle Atlantic States. Upon approaching the lake area the landscape becomes flecked and dotted with numerous apple trees, many of them old but stalwart and apparently with a future still ahead of them. The roadsides, too, are lined with apple trees, the majority of which are pruned and capable of producing good crops. Spraying, however, is not generally practiced on roadside plantings and the trees are covered with moss and lichen.

As a large part of the trees in this area are of cider varieties, a vigorous top working program has recently been put into practice. It was stated that during the past five years more than one-third of the trees have been grafted to more desirable market varieties.

Cherries are also receiving attention. About 1,700 acres are to be set out in the vicinity of Rodolfzell this fall. By agreement among farmers, large blocks of the same variety are being planted. Large fruit acreages are under the control of single estates. The tendency is to divide these into smaller units and rent them to tenant operators. One estate visited contained between 16,000 and 18,000 fruit trees, consisting largely of apples, pears and cherries.

The most interesting and significant feature of the industry in Germany is the fact that great interest is manifested in producing more desirable varieties and in improving the quality of fruit produced. Most provinces are employing horticultural advisers who are active in bettering conditions and improving growing practices so as to enable growers to withstand the competition which they are constantly facing from other quarters. These advisers are fostering improved varieties, introducing spraying and spray materials, disseminating literature and making every effort to improve conditions.

Switzerland

From the Lake Constance area in Germany it is possible to look across the water into Switzerland and Austria, the three countries almost joining each other at the upper end of the Lake. Passing over the boundary, one enters a new country. Fruit culture on the Swiss side of the Lake is, however, very similar to that found across the Lake on the German side.

According to the census of 1929, Switzerland had about 12,000,000 fruit trees in bearing, of which about 40 per cent were apples and 30 per cent were pears. Plums and cherries made up most of the balance. Fruit production is quite general over all the Swiss cantons, but apples are grown to the greatest extent in the Lake Constance area. Apples are also grown commercially in the cantons of Zurich, Lucerne and Valais. Considerable expansion is taking place in other districts and apple orchards are replacing vineyards to a large extent. Large areas of cider apples and pears have been set out, but due to certain restrictions on the sale of alcoholic beverages voted on April 6, 1930, the planting of cider varieties will undoubtedly experience a setback. Prior to April 6 any farmer could manufacture and offer for sale alcoholic drinks produced on his farm, without being subject to tax. Under the new law, all spirits are subject to tax. This will tend to discourage the planting of cider varieties and to stimulate interest in the production of higher quality fruits of the table varieties.

Generally speaking, fruit culture is not treated as a speciality, but as an auxiliary to the meadow and pasture lands. In Southern Switzerland, however, the industry is rapidly developing and assumes more of the commercial aspect such as we are accustomed to in the United States. The Valais district is specializing in fancy fruits which find favor in France. Extensive plantings have been made during the past ten years and this canton is regarded as one of the most progressive in the country. The Boskoop, Golden Pearmain, Danzega and Kantapfel are the varieties most extensively planted. The Gravenstein is grown largely in the canton of Berne.

In certain other sections of Switzerland trees have been planted more or less promiscuously by the peasants in gardens, in fields, along roadsides, and over the Swiss mountainsides. Sometimes they are set out in regular order, but frequently the trees are planted irrespective of any

system or without paying any particular attention to separation by varieties or even to segregation of the different kinds of fruit.

In the past the growing of grass for hay or grazing was given precedence over the cropping of trees. As livestock constitute over half of the farmers' income, first consideration has been given to the production of feed. Hence if the trees produced a crop, all well and good; it was looked upon as so much additional income from the land. If the apple crop failed, there always remained the annual feed crops.

Grape culture has been handled on a different basis, since it is not possible to secure yields unless special attention is paid to fertilization, cultivation and pruning. Good wine depends upon good grapes and good grapes depend upon favorable seasons. An abundance of sunshine and warmth is required to make a good grape and frequently climatic conditions are not conducive to perfection of the vine. Even though wine has been a standard article of commerce and can be marketed over a long period, the industry has not been profitable in recent years and is giving way to other crops. Hill-sides which were once planted heavily to grapes are being transposed from vineyards into orchards.

Present tendencies of fruit growing

The Swiss Government has recently inaugurated an extensive program to foster and stimulate fruit production. Funds have been made available to finance cooperatives, to construct packing houses, cold storages, and to assist in production and marketing practices. Government inspection has been made available in all areas, to serve those who desire to use it. It is voluntary, not compulsory. This past season 2,500 cars were inspected out of a total movement of between 7,000 and 8,000 cars.

The advantages of spraying are becoming more generally recognized. Experimental evidence has proven that spraying is a profitable practice under Swiss conditions. It is impossible to produce cherries without spraying, hence its use is being generally carried out. Although the spraying of apples is not as common, and it may be 10 or 15 years before it is universally practiced, it is showing a steady growth. Only the table or dessert varieties of pears are receiving any attention as regards spray practices. Cider fruit is not sprayed at all.

Harvesting and marketing methods

Harvesting methods are improving. Grading is not generally practiced but is receiving serious consideration from some areas. Through the establishment of packing houses, equipped with modern grading and sizing machinery, progress may be reasonably expected in this direction.

A-510
As Switzerland is an export country, most attention is being given to supplying foreign markets with their requirements. Germany, France, The Netherlands, and the Scandinavian countries constitute the best outlets.

Shipments to Germany are largely made in bulk. Loose apples carry an import duty of 2 marks per 100 kilos (21.6 cents per 100 pounds) as compared with 7 marks per 100 kilos (75.6 cents per 100 pounds) when packed in containers. Shipments made into France and Scandinavia are in boxes weighing 50 kilos (110 pounds). While exporters purchase the apples in certain localities from the peasants and ship them in bulk to commission houses in Germany, an increasing tonnage is being graded, packed and shipped by peasant cooperative societies.

Outlook for future apple production

Conclusions drawn from the various factors that usually influence horticultural practices both in the growing and shipping of fruit, would lead to the belief that Switzerland will offer increased competition to American apples on the European markets. Switzerland will continue to produce a substantial quantity of inferior stock for some years, a factor which must be reckoned with in conjunction with competition for our barreled apples. However, the fact that Switzerland is making progress and will continue to do so, is a point which must be clearly recognized. Its competition will be felt during the autumn and winter months and American growers would do well to consider the progress now being made in this, along with other countries.

Northern Italy

One of the most important, interesting and beautiful apple shipping districts in Europe is that of Northern Italy, centering at Bolzano in the Adige Valley. Radiating from Bolzano, which lies nestled at the foot of almost perpendicular granite walls, are numerous valleys, terminating at the various passes leading through the Alps. These narrow but picturesque valleys, lying in the shadows of the massive mountains and snowclad peaks, are very fertile and are occupied largely by trees and vines.

The steep, mountainous hillsides are heavily planted to grapes, while the plateaus and bench lands as well as the floors of the valleys are planted to both stone and other deciduous fruits in addition to grapes. Grape growing predominates over other fruit crops, but the importance of tree fruits should not be minimized. Commercial apple growing is centered largely in the valley connecting Bolzano and Merano, which is an area some 25 miles long and from one to five miles wide. Peach trees and to some extent pears are interplanted between the apples. At Merano, which is a beautiful spring and summer resort, we find the White Winter Colville apple produced on dwarf (Paradise) stock which is espalier trained. These fruits are high class and much sought after. They are bagged and also stenciled, either with initials or the crest of some famous hotel or restaurant. The Colville is widely known and is recognized as a super luxury variety.

South of Bolzano the valley broadens out and resembles very closely the plateaus of some of our Western States. Practically all arable land is planted to grapes, with apple trees on the slopes rising abruptly from the benches. The soil and elevation are such as to permit tree fruit culture, but vineyards would have to be removed to make way for orchards. The whole area is capable of further expansion and although development is not rapid or spasmodic, it is gradual.

Prior to the World War, this section was a part of the Austrian Empire and although the Italian influence is making its imprint, the people in certain areas are largely Germanic and the German language is spoken almost exclusively.

Extent of the industry

That this area is important from a fruit producing standpoint cannot be questioned, but when looked at strictly from an apple point of view, it is not particularly impressive. The reason for this is found in the scattered nature of the plantings as compared with some of our more widely known fruit districts. Most of the orchards are small and are more or less irregular in outline and are worked by farmers who in some instances are still following the principles and practices laid down by their ancestors.

Satisfactory statistics are not available. Owing to the nature of the planting, inasmuch as intercropping is a common practice; the various types of fruits are not segregated by kinds or varieties, which makes calculations on either a tree or acreage basis almost impossible. Furthermore, actual figures on numbers of trees are withheld as the peasants harbor the suspicion that any information given is for the purpose of taxation.

Most of the plantings at present are just reaching their prime, being from 10 to 20 years of age. Some new plantings are being made and in certain districts numerous tracts have been set out during the past five years. Bottom lands which heretofore have been unsuited for fruit crops because of poor drainage are receiving attention. Large drainage ditches have been put in and the areas thus drained set out to orchards.

Methods of culture

Some of the orchards are planted with a northern exposure but many excellent orchards are located on the valley floors with no particular consideration given to exposure. A goodly portion of the newer plantings is of the latter class. The soil for the most part is fertile, porous and easily worked.

Cultivation is becoming quite generally practiced, most of it being done by oxen when the spacing of the trees permits. Each spring the trees are mounded, the mounds extending from the trunk to a point just beyond the

spread of the branches. These mounds are about 12 inches high and are said to be used to bring the feeding roots closer to the surface, thus permitting better drainage as well as feeding. The mounds are all built up by hand labor.

As the peasants keep cattle for both draft and dairy purposes, grass plots or meadows must be provided for hay crops. In some cases the trees are supplementary to the grass crops and the production of feed for the stock is given first consideration. For the most part, however, orchards today are receiving some cultivation. Particular attention is being paid to soil fertility and apparently considerable advancement has been made during the past five years in this respect. The trees have reacted favorably to this practice, as in the main they are thrifty, upstanding, and vigorous.

Young plantings appear to be especially vigorous, new growth averaging from 18 to 36 inches. The apple trees at the time observed had just reached the stage where they were in ideal condition to receive the pink spray. The buds were well distributed and showed promise of a good crop. Spur development was good, showing an average growth of about one-half inch.

Trees are fertilized for two years with stable manure, each tree receiving a heavy application, from 200 to 300 kilos (440 to 660 pounds) per tree. The third year a complete commercial fertilizer is used, consisting of one part nitrogen, one part potash and two parts superphosphate. From 8 to 10 kilos (18 to 22 pounds) are used per tree. On five-year-old trees from 5 to 7 kilos (11 to 15 pounds) of the mixture are applied. The fertilizer is spaded in, in the area around the tree, which corresponds to the ring or mound mentioned above.

Spraying is being adopted gradually and although a complete program is not a general practice, certain growers are putting on a full schedule. Some of the best orchards are leased, or production practices controlled and supervised, by shippers who are interested in producing marketable fruit. These men are in touch with the latest developments. One large shipper visited has charge of several fine orchards. He is also the distributor for spray materials and appears to be doing a good business. In addition to selling the material he has men who supervise and instruct the peasants in its use. They go about from orchard to orchard seeing that it is properly mixed and correctly applied. Most spraying is done by hand sprayers but despite this fact, the tops of the trees are reached and coverage seems to be thorough. Dusting is also practiced to some extent and although hand equipment is used, a good fog is produced. The spray program consists of from 4 to 5 sprays which are applied as follows:

1. A spring spray (oil) which corresponds to our delayed dormant.
2. "Pre-pink" (Bordeaux mixture and arsenate of lead).
3. Petal fall spray (Bordeaux and arsenate).
4. Three weeks spray (Bordeaux with an excess of lime).
5. Date indefinite, depending upon weather conditions and scab development. (Same materials as in No. 4.)

Dusts are applied during the pink stage and pure sulphur is used.

Pruning is also coming in for its share of attention. Young trees are being developed along lines similar to our modified leader, although cutting back is much more severe than is now advocated in this country. Young trees, it would seem, are being over-pruned while the older trees are perhaps not being cut quite heavily enough. Thinning out superfluous limbs and opening up the tops and outsides of the trees are customary practices for old trees. The abundance and general distribution of fruit buds, throughout the entire tree is an outstanding characteristic. Each limb carries an abundance of fruiting wood, nicely spaced from the tip back to the point where it leaves the trunk or parent branch. Pole pruning (stripping limbs or branches of all their fruiting wood except for a short space toward the end) is not a pruning practice generally followed in Europe.

Harvesting methods

Where the growers ship through a cooperative association they do their own picking, but where they market through a local shipper it is common for them to sell their crop on the trees and let the buyer do the picking and packing. After being picked from the trees the apples are emptied into padded baskets, which hold about $2\frac{1}{2}$ bushels. The fruit is then transported to a central packing house, which is substantially constructed and meets with local requirements. As the fruit enters the packing house it is weighed on the receiving platform, rolled in on small trucks and emptied into padded bins. The bins are so arranged that they can be put up or taken down at will. It is simply a question of fitting or sliding padded sides into posts which have been grooved and placed for that purpose. The usual practice is to allow the fruit to remain in bulk in these bins. It is piled to a depth of about three feet. The fruit is removed from the bins as it is needed, sorted over into grades, and placed in shallow baskets from which it is packed in boxes or barrels.

The competitive outlook

The Italian Tyrol undoubtedly has distinct advantages for the production of apples on a commercial scale. It has certain natural characteristics which, if exploited, would seriously interfere with the successful marketing of American apples in Europe. It is true that orchards would have to replace vineyards to permit of regular, extensive plantings, and additional drainage provided for in the low lands and rainfall supplemented with irrigation on the mountain slopes. The section has production possibilities, however, which must be admitted, such as fertile soil, sufficient moisture, favorable climatic conditions, good shipping facilities and a short haul to market.

The number of young plantings is not excessive or of such nature as to cause important increases in production. However, there are marked influences indicating the tendency toward making the present acreage more productive through the introduction of improved cultural practices such as cultivation, fertilization, pruning, and spraying. Should the industry continue to be profitable and additional outlets be developed, producers of American apples would encounter greater difficulty in disposing of their surplus at remunerative prices. It is not predicted that any sensational development will occur soon or that the acreage will be increased to any considerable extent, within the relatively near future. It is believed, however, that increased competition may be reasonably expected from this quarter.

Austria

Although fruit production in Austria, as in some of the other European countries, is pretty well scattered over the entire country, the heaviest planting is said to be in the southern part in the vicinity of Graz in the Steiermark district. Conditions in Austria are not very encouraging and economically speaking the outlook is none too bright. Agriculturally as well as industrially the country has been subjected to a severe setback, and it is not probable that Austria will offer severe competition soon, as far as fruit production is concerned.

As is the case in most countries of Continental Europe, fruit culture has not been treated as a specialty. Trees have been planted at irregular intervals, along roadsides and at any place that happened to strike the fancy of the peasant. In the Graz area one finds a beautiful farming country, with gently rolling hills and wide, level valleys, for the most part covered with a rich, green sod. The hillsides are sprinkled with fruit trees, apple and pear, of which 80 per cent are apple. In traveling through this section, winding along the country roads, one would be inclined to underestimate the importance of this area and fail to appreciate the tonnage of fruit which is produced and shipped out during the years of good crops.

There are no large, solid blocks of orchards, yet trees in small numbers are to be found extending for miles in all directions. As the large farms are rented out and worked by tenants, a single land owner may have scattered over his farm as many as 2,000 to 5,000 trees. These, of course, are broken up into small plantings of from 50 to 100 or more trees, giving each peasant a hectare (2.5 acres) or more to look after, in conjunction with his other farm work.

The trees are almost without exception an auxiliary to the pasture. Heavy sods are to be found in almost every instance; they are seldom plowed up. The meadows are either pastured, grazed over, or cut for hay. The trees, generally speaking, are poorly nourished and indicate neglect. Little annual growth is made and the trees are distinctly inclined toward biennial bearing. As little or no spraying is done, the trees are covered with mossy growths which give them much the same appearance as some of our old, neglected farm orchards. As is to be expected, the trees are high headed to permit plowing and other farm operations to take place under the trees. Little pruning is done and the tops are too thick to allow sunlight to enter and to permit of high color.

Some trees are large and capable of heavy production but the rank and file are dwarfed, under-nourished and fail to indicate any real competition as far as immediate increased productivity is concerned. In one relatively small area some spraying is done, but applications when made are applied with no particular reason as to time, and as far as could be learned, no definite spray schedules are adhered to.

It is difficult to gain a clear cut idea of the true size or importance of the industry as satisfactory statistics are not available. Due to the scattered nature of the plantings, figures based on acreage would be of little or no value. An accurate census of the number of trees would be a difficult undertaking. Since the peasant fears that census taking is for the purpose of taxation, the figures collected would likely be an under estimation of the actual number.

Varieties produced are largely of winter sorts and are as follows: Winter Gold Pearmain, Canada Reinette, Gravenstein, Gold Edelapple, Schoner von Boskoop, White Winter Colville, Danzinger Kautapple, and Yellow Bellflower. These apples are shipped to Vienna and into neighboring countries.

The competitive outlook

There is little prospect of increased production from this section in the near future, when viewed from the standpoint of quality. In good crop years, however, the district has possibilities of shipping a large

volume of low quality fruit which may affect indirectly American apples during a certain period. The country is adapted to fruit growing and has a competitive advantage that might affect American apples in the southern part of Europe. However, there are no indications of any immediate change and there is nothing to point to an increased output for some years to come. No young trees are being planted and no effort being made, certainly on the part of the peasants, to make the present acreage more productive. Also there are no indications that practices such as spraying, pruning, cultivation and fertilization are undergoing improvement.

Another influence, perhaps, which might be mentioned, is the attitude of the people themselves. Since the War, the spirit of contentment is lacking. For the most part they are restless, discouraged, and financially unable to stage an immediate comeback. With the lack of interest, ambition, and capital, it is doubtful if these rolling hills and fertile valleys will be converted into modern or well cared for orchards, or if any significant changes will take place which are fundamental to the successful growing and marketing of fruit crops.

Czechoslovakia

Fruit growing is well scattered over the Republic of Czechoslovakia. Because of an old law requiring farmers to plant fruit trees along all roadsides, the landscape is pretty well flecked with trees in all directions. Fruit trees, too, occupy most of the gardens and in many instances they serve a dual purpose, being planted in yards for ornamentation and at the same time to provide some fruit for the family.

Commercial production is also well distributed. For apples, pears and plums, the western part of the country predominates, production centering in Königgratz, Leitmeritz, Bodenbach, and Tetschen. Some of the best and heaviest plantings are in the neighborhood of Leitmeritz. Another district for apples lies in Ruthenia, centering at Uzhorud. Grapes and apricots are produced in the southern part of Moravia and Slovakia. The grapes are used mostly for wine making.

Bohemia is by far the most important part of Czechoslovakia for fruit production. The fruit district starts in the Valley of the River Elbe, across the German frontier, where the hills rise from the river banks forming a rolling, more or less broken, country which is wooded or in grass. A short distance away from the river the slopes become more gentle which allows the planting of trees and the growing of cultivated crops. The industry follows the River Elbe through Aussig to a point near Leitmeritz, and then spreads out in both directions. Although plantings are scattered quite generally along the banks of the river, the commercial plantings are mostly on higher elevations where there is better air-drainage and the danger of spring frosts minimized.

The apple orchards, like those in other countries previously described, are not considered of primary importance. The farmer's first consideration is grass or cultivated crops. The trees are scattered at random over the farm, frequently without regard to proper spacing or alignment. The land which is occupied by trees is also used for producing hay crops, grain, sugar beets and garden truck. Occasionally there are orchards that have been set out in regular rows, where the trees are receiving a fair amount of attention. Generally speaking, however, the trees are high headed, widely spaced and have the appearance of neglect. The soil is mostly clay, being lighter in texture along the river slopes than at a distance from the Elbe.

The peasants live in villages, which are usually attractive. The workers go to and from their homes in the village each day to their pieces of land. As no fences or hedges are used to define boundary lines, the landscape takes on the appearance of a piece of patch work. Narrow strips of cultivated land, when worked in between strips of sod, present a very interesting and striking contrast. Containing many widely scattered pieces, the majority of the farms run from 25 to 100 acres.

Results of the severe freeze during the winter of 1928-29

Statistical reports on the numbers of trees in Czechoslovakia prior to 1928-29 are today of little value. The severe winter temperatures of 1928-29, which were the lowest on record and which followed the prolonged drought of the preceding summer, resulted in widespread damage to the fruit industry of this section. The exact extent of the injury is not yet known, as many trees were seriously injured but not killed. Trees of this character have been left standing hoping that a new tree would be developed through shoots that night arise.

Injury ranging from 5 to 10 million trees has been reported. In July of last year the statistical office of the Czechoslovakian Government gave 4,750,000 trees as a preliminary estimate of the number frozen or damaged. Total losses for Silesia alone were estimated to be about 2,000,000 trees. The greatest loss was with cherries and plums, with apples suffering greater losses than pears. In Bohemia approximately 3,000,000 trees were killed or so badly damaged that recovery is extremely doubtful. Compared with the 1920 census the loss amounts to more than 25 per cent. In Mahreu-Silesia 20.4 per cent, in Slovakia 21.2 per cent, and in Ruthenia 12.9 per cent.

In Silesia the damage was so serious that it is believed fruit culture will be reduced materially for the next 12 to 15 years. The loss was greatest for older trees. It is estimated that trees ranging from 30 to 60 years of age showed 90 to 100 per cent damage, those 4 to 6 years old suffered a loss of 50 per cent, while those a year or two old only

10 to 20 per cent. Stone fruits were especially hard hit in this province. Damage is reported about as follows:

Cherries (sweet)	90-95	per	cent
" (sour)	10-20	"	"
Plums	60-70	"	"
Pears	75-80	"	"
Apples	50	"	"
Walnuts	95-100	"	"
Peaches and apricots	90-100	"	"
Berries	0	"	"

In Bohemia the results of the freeze are everywhere in evidence and are especially noticeable wherever cherries and plums were planted. The outer bark is falling off, leaving the tree exposed conspicuously and giving it a bare, naked appearance. Apples and pears were not as badly injured as was first indicated but damage to these fruits was also considerable.

Outlook for the apple industry

The orchards or scattered plantings of fruit trees in the sections of Czechoslovakia observed were not especially impressive. They appeared generally to be more or less neglected. It is stated that during the war farmers made money so readily from their trees that they received very little attention in return. Since the war, conditions, both economic and political, have been such as to render marketing more difficult.

Young plantings in Bohemia were made mostly during the war period. Very few have been made in recent years. Old orchards do not look thrifty, and are becoming commercially unimportant. Judging from the general picture observed there seems little to worry about so far as immediate competition from this section is concerned. With the large number of trees damaged or winter killed, it will be some years before production can reach the level of two years ago. It was stated that the Government is looking after the establishment of new orchards and an effort is under way to make replacements as rapidly as possible. Results, however, are not yet noticeable.

Czechoslovakia, like other countries visited, has possibilities which if taken advantage of could make matters quite difficult for American shippers. The country itself is well adapted to fruit culture in most all of its branches and the potential possibilities should not be minimized. Soil and climatic conditions are favorable, good shipping facilities are available, and production costs are relatively low.

In view of what has been said regarding the rejuvenation of this country, one perhaps may be inclined to expect too much in the way of its horticultural development. However, after making a survey of fruit growing conditions, it is concluded that there will not be any change in the next 25 years that will alter materially the competition of Czechoslovak apples on European markets.

Summary and conclusions

Summing up the whole situation in a few words, it can be stated that horticulture in the countries visited, with the exception of Austria and Czechoslovakia, is making progress. Much interest is being shown in American methods. New plantings are being made with respect to proper spacing and proper distribution of varieties. Pruning is receiving more careful consideration and much more attention is being given to spraying, cultivation and fertilization.

Along with improved production practices, harvesting, grading, packing and marketing are not being neglected. Government agencies are at work instructing and encouraging growers to grow better fruit. Cooperative marketing is receiving its share of attention and the construction of packing and storage plants is advocated and in some instances financed by the Government.

Less competition from these countries need not be expected in the years to come; on the contrary, it will be necessary for the American producer to hold up and improve his standards if this slowly increasing competition is to be met successfully. It has been stated that it is extremely difficult to put New World methods into Old World practice, but a glimpse of Russian apples, for example, on competitive European markets, will show that it is possible, if not probable.

-----O-----

